BEFORE THE FEDERAL COMMUNICATIONS COMMISSION WASHINGTON, DC 20554

In the Matter of)	
)	
NTIA Report on Current and)	DA 02-361
Future Spectrum Use by the)	
Energy, Water and)	
Railroad Industries)	
)	

COMMENTS OF THE AMERICAN PETROLEUM INSTITUTE

THE AMERICAN PETROLEUM INSTITUTE

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EXECUTIVE SUMMARY

Our nation's petroleum and natural gas companies are authorized by the Federal Communications Commission to operate a variety of private telecommunications systems that are used to provide the internal communications capabilities that are crucial to protecting lives, health and property. These systems are critical to the day-to-day operations of these companies, and are used, as well, to respond to potentially life-threatening emergency situations. Because of the importance of these communications systems, API submitted Comments to the National Telecommunications and Information Administration regarding the agency's study of spectrum use by the energy, water and railroad service provider industries.

The private communications systems utilized by oil and natural gas industry companies are essential to meeting safety, operational, environmental and regulatory compliance obligations. Congestion in radio spectrum bands currently allocated for private systems threatens the reliability of the communications capabilities of these entities. At a minimum, current allocations should be preserved. Additionally, an exclusive allocation of channels for critical infrastructure industries would contribute immeasurably to alleviating the problems caused by congestion and facilitate adequate access to radio spectrum for vitally important private communications systems. While oil and gas companies employ commercial services as a component of their overall communications networks, commercial services are often inadequate to meet the specialized needs of these entities.

API unequivocally believes that the petroleum and natural gas industries will continue to have critical needs for these private communications systems. As components of the Critical Infrastructure Industries with public safety concerns related to their operations, the oil and

natural gas industries require new spectrum allocations to support their energy exploration, production, refining, transportation and distribution activities.

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To: The Wireless Telecommunications Bureau

COMMENTS OF THE AMERICAN PETROLEUM INSTITUTE

The American Petroleum Institute ("API"), by its attorneys, is pleased with the opportunity to submit these Comments to the Federal Communications Commission ("FCC" or "Commission") in response to the Public Notice issued by the FCC's Wireless Telecommunications Bureau on February 14, 2002. The Public Notice seeks comment on the U.S. Department of Commerce, National Telecommunications and Information Administration ("NTIA") report entitled "Current and Future Spectrum Use by the Energy, Water, and Railroad Service Industries" ("NTIA Report"), which was released on January 30, 2002.²

¹ 67 Fed. Reg. 8982 (Feb. 27, 2002). Wireless Telecommunications Bureau Seeks Comment on NTIA Report on Current and Future Spectrum Use by the Energy, Water, and Railroad Industries, *Public Notice*, DA 02-361 (rel. Feb. 14, 2002).

² Marshall W. Ross and Jeng F. Mao, Current and Future Spectrum Use by the Energy, Water, and Railroad Industries, Response to Title II of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2001 Public Law 106-553, U.S. Department of Commerce, National Telecommunications and Information Administration (rel. Jan. 30, 2002) (hereinafter NTIA Report).

I. PRELIMINARY STATEMENT

- 1. API is a national trade association representing approximately 400 companies involved in all phases of the petroleum and natural gas industries, including the exploration, production, refining, marketing and transportation of petroleum, petroleum products and natural gas. The API Telecommunications Committee is one of the standing committees of the organization's Information Systems Committee. The Telecommunications Committee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the oil and gas industries.
- 2. API's Telecommunications Committee is supported and sustained by licensees that are authorized by the Commission to operate, among other telecommunications systems, facilities in the Private Land Mobile Radio Services ("PLMRS"). API's members utilize PLMRS systems, for example, to support the search for and production of oil and natural gas, to ensure the safe pipeline transmission of natural gas, crude oil and refined petroleum products, to process and refine these energy sources and to facilitate their ultimate delivery to industrial, commercial and residential customers.
- 3. Many of these same licensees also utilize facilities authorized in the Private Operational-Fixed Microwave Services ("POFS"). These systems serve a variety of vital telecommunications functions, including communications with remote oil and gas exploration and production sites for voice and data applications, communications with refineries, the extension of circuits to remote pipeline pump and compressor stations, and supervisory control and data acquisition systems ("SCADA") that remotely monitor and control wells and pipelines. Multiple Address Systems ("MAS"), also authorized in the POFS to meet point-to-multipoint SCADA applications, are used extensively in the production of oil and gas from both on-shore

and offshore wells, as well as in the remote operation of pipeline facilities. The oil and gas industries were among the pioneers in the development of private microwave, utilizing their systems to monitor and operate petroleum and natural gas pipelines.

4. As API stated in its Comments submitted to the NTIA, continued operation of the private radio systems employed by petroleum and natural gas companies is absolutely essential to protecting lives, health and property, both in connection with the day-to-day operations of these companies, as well as during responses to emergency incidents. These systems are integral to the provision of our nation's energy resources. Due to the critical importance of PLMRS and POFS systems to the operations of its members, API has been an active participant in all of the Commission's major rule making proceedings that have addressed the use of spectrum in the private radio services.

II. COMMENTS

- 5. In June 2001, API submitted Comments to the NTIA in response to the agency's Request for Comment ("RFC") on current and future spectrum use by our nation's energy, water and railroad service providers.³ Those comments, along with the comments received from the other respondents to the RFC, were used in conjunction with information obtained from certain federal agencies and other sources to compile the NTIA Report.
- 6. In its Comments submitted to the NTIA, API emphasized that the private communications systems utilized by the FCC's oil and gas industry licensees are essential to meeting the safety, operational, environmental, and regulatory compliance obligations of these

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³ Request for Comment on Energy, Water, and Railroad Service Providers' Spectrum Use Study, 66 Fed. Reg. 18448 (2001).

companies. These entities rely on a combination of predominately spectrum-dependent and, to a lesser degree, non-spectrum dependent technologies to operate their private telecommunications systems. Some companies also employ commercial services as a component of their overall communications networks; however, commercial services are not a substitute for private systems and have often been found to be inadequate to meet the specialized needs of the oil and gas industries.

7. In its February 2002 Public Notice, the Wireless Telecommunications Bureau did not present specific questions for comment, but instead broadly requested comment on the NTIA Report. In the Comments set forth below, API addresses, and again emphasizes, the following issues: 1) continued radio spectrum availability is essential to the operation of oil and gas industries for the provision of much of our nation's energy resources; 2) commenters to the NTIA RFC, as well as participants in prior and ongoing proceedings at the Commission, have consistently recognized the need for an exclusive allocation for critical infrastructure industries; 3) the Commission should not reduce the spectrum that is currently allocated for private systems; and 4) commercial systems are not, and will not be in the foreseeable future, an adequate replacement for the private systems required by oil and gas industry companies.

A. It Is Well Established That Continued Spectrum Availability Is Essential to the Operations of Critical Infrastructure Industry Companies

8. Executive Order 13010 regarding Critical Infrastructure Protection, signed by President Clinton in July 1996, stated that "[c]ertain national infrastructures are so vital that their incapacity or destruction would have a debilitating impact on the defense or economic security of the United States." The NTIA Report notes that "President Clinton recognized the railroad,

⁴ Critical Infrastructure Protection, Exec. Order No. 13010, 61 Fed. Reg. 37347 (1996).

water and energy industries as part of the Nation's critical infrastructure" and that the communications applications utilized "are vital to the core operations of these industries." The NTIA Report also notes that "the federal agencies who regulate these industries generally concur with the comments NTIA received. Specifically, the agencies noted that spectrum usage is an important part of these industries' core operations, ranging from routine maintenance to emergency response." In fact, the Commission itself has recognized the critical importance of radio systems to these companies:

[I]n these industries, radio is used as a critical tool for responding to emergencies that could impact hundreds or thousands of people. Although the primary functions of these organizations is not necessarily to provide safety services, the nature of their day-to-day operations provides little or no margin for error and in emergencies they can take on an almost quasi-public safety function. Any failure in their ability to communicate by radio could have severe consequences on the public welfare.⁷

9. Operational, legal and regulatory, geographical, and safety considerations all play a part in why reliable, private internal communications capabilities are absolutely essential to the operations of electric, water and gas utilities, natural gas pipelines, petroleum companies, and railroads (hereinafter the Critical Infrastructure Industries or "CII"). As stated in the NTIA Report, the "[c]ontinued use of spectrum is essential to the current and future operations of these industries, taking into account industry trends and advances in wireless telecommunications technology. Providers of energy, water and railroad services are vital components of the nation's

⁵ NTIA Report at xviii.

⁶ *Id.* at 7-3.

⁷ Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 00-403, ¶ 76 (rel. Nov. 20, 2000) (hereinafter BBA-97 Order).

critical infrastructure." These conclusions should hardly be surprising to the Commission, given that API and other parties representing CII companies have highlighted their vital spectrum needs in virtually every FCC rule making proceeding during the past several decades that have impacted private radio use.

10. Currently, the petroleum and natural gas industries provide for approximately sixty-five percent of our nation's energy supply. Respondents to the NTIA RFC highlighted the fact that growth in the services provided by energy, water and railroad industries is increasing. In fact, as our population continues to increase, the Department of Energy predicts that by the year 2020, the demand for oil and natural gas will rise by thirty-three percent. The growth in infrastructure necessary to meet increasing consumer demand will require additional communications capabilities to meet both operational and safety needs. In that regard, it is absolutely essential that the oil and gas companies continue to have access to spectrum that will allow these companies to operate reliable private communications systems that are of such vital importance to these industries.

B. Commenters Consistently Identified the Need for an Exclusive Allocation of Spectrum for CII Companies

11. In its report, the NTIA states that "one common issue identified by commenters is the congestion that they are experiencing in the land mobile bands." API agrees that such congestion has been, and continues to be, a significant problem for its member companies.

According to NTIA, the majority of commenters to its RFC "indicated that exclusive spectrum

⁸ NTIA Report at xvii.

⁹ <u>See</u> American Petroleum Institute, *Why a National Energy Strategy Is Needed*, http://api-ec.api.org/printerformat.cfm?ContentID=7D3A31B1-AD1E-4CE1-9BADE1125E5287CD (visited Mar. 5, 2002).

¹⁰ NTIA Report at 7-2.

would help alleviate the problem." Accordingly, API – as it has on a number of prior occasions – again strongly urges the Commission to consider the adoption of an exclusive CII allocation in the private land mobile and/or other frequency bands.

- and availability in the PLMRS bands below 512 MHz by consolidating the 20 formerly-separate service pools into two pools: the Public Safety Pool and the Industrial/Business ("I/B") Pool. 12 Although the proceeding spanned nearly ten years, and despite the official termination of this proceeding in the Fifth Memorandum Opinion and Order released in December 2000, there remain substantial outstanding issues that have not been resolved. Moreover, due to the lack of an exclusive allocation and persistent congestion in these bands, some petroleum company applicants have been unable to license new systems on these frequencies, and are often without any reliable alternative. Thus, despite the Commission's good intentions, "Refarming" has not proved to be a panacea for the problems plaguing the private land mobile bands.
- 13. The NTIA Report describes the frequency coordination process in the PLMRS bands below 512 MHz. API respectfully takes this opportunity to clarify some of the issues raised in the NTIA Report. In the pre-service consolidation environment, applicants were required to go to the frequency coordinator designated specifically for that particular service (e.g., Petroleum, Forest Products, Highway Maintenance, etc.). As discussed above, the formerly exclusive service pools have now been consolidated into the Public Safety and I/B

¹¹ *Id.* at 7-2.

¹² See Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket 92-235, Second Report and Order, 12 FCC Rcd 14307 (1997).

pools; frequencies in the I/B pool may be coordinated by any coordinator certified for the I/B pool, with certain exceptions.¹³ Further, the channels in the I/B pool generally are available to any applicant that meets the broad eligibility requirements for this pool.¹⁴

- 14. The NTIA Report states that "API is designated as the 'Petroleum Coordinator (IP)' for all energy providers of petroleum or petroleum-based energy products [and that] API manages over 34,100 licenses authorized for operations in the frequency bands below 512 MHz." API notes, however, that there is no longer a separate pool for petroleum licensees. Rather, with limited exceptions, the frequencies in the formerly separate pools are now available for general I/B use, and applications for authority may be submitted to any of the certified PLMRS frequency coordinators. The 34,100 licenses cited in API's comments to the NTIA reflect the number of authorizations currently authorized on the channels in the <u>former</u> Petroleum Radio Service; eligibility for these channels, however, is not restricted to petroleum and natural gas companies. As such, there presently is no exclusive radio spectrum allocation for petroleum and natural gas companies, or other CII entities.
- 15. Seeking to address CII spectrum availability and coordination problems stemming from the service pool consolidation, API, UTC, and the Association of American Railroads

¹³ See 47 C.F.R. § 90.35(b)(2)(i). These exceptions include some channels and/or coordination requests for which applications must be submitted to a specifically designated coordinator or consented to by a particular coordinator or impacted licensee.

Some of the channels in the I/B pool that are designated for a specific frequency coordinator may be licensed only to conduct certain activities (i.e., the frequency 25.02 MHz in the I/B pool requires coordination, or written concurrence, from the IP (Petroleum) coordinator, and the channel may only be used for geophysical operations).

¹⁵ NTIA Report at 2-3.

¹⁶ See ¶11, *supra*.

¹⁷ See API Comments at ¶ 4; NTIA Report at 2-3.

("AAR") (jointly as the "CII") submitted to the Commission in 1998 a Petition for Rulemaking that looked toward the establishment of a separate frequency pool comprised of a portion of the channels that were previously allocated exclusively, or on a shared basis, to the Power, Petroleum and Railroad Radio Services prior to "Refarming." The FCC, however, denied the CII Petition for Rulemaking, and stated that "[w]hile critical infrastructure industries have legitimate spectrum needs, we do not believe that these needs warrant removing frequencies from the I/B Pool . . . [w]e note, however, that our decision not to create a third pool below 470 MHz does not preclude us from using other mechanisms (e.g., Band Managers or a change of licensing schemes) in these or other bands, in order to appropriately respond to the concerns set forth by CII." To date, in API's view, the Commission has not responded to the needs expressed in the CII Petition; and, as indicated in the Comments recently submitted to the NTIA for its spectrum use study, the problems that the CII Petition sought to address still exist today.

C. Instead of Responding to the Needs of CII Companies, the Commission Has Been "Chipping Away" at the Frequency Bands Available for Private Systems

16. As discussed above, API, and evidently many of the other parties that submitted comments to the NTIA, believes that the Commission has not adequately responded to the spectrum needs of the critical infrastructure industries. Provided below are several examples of proceedings in which the FCC – rather than securing new spectrum for the CII – has, in fact, reduced the amount of spectrum available for use by private systems.

¹⁸ <u>See</u> UTC, The Telecommunications Association, American Petroleum Institute, and the Association of American Railroads Petition for Rulemaking (RM-9405) (filed Aug. 14, 1998).

¹⁹ BBA-97 Order at ¶¶ 99, 103.

i. Reallocation of POFS Spectrum

- 17. During the past decade, the Commission has reallocated from private to commercial use several of the Fixed Service ("FS") bands that CII companies traditionally have relied upon to meet important operational and safety needs. To begin with, the band 1850-1990 MHz was reallocated from the FS to the Personal Communications Services ("PCS") in 1992. Then in March 1997, the Commission affirmed the reallocation of spectrum in the 2165-2200 MHz from FS to the Mobile Satellite Service ("MSS"). As a result of these spectrum reallocations, incumbent POFS licensees (many of which are CII entities) have had, or will have, to relocate their systems to other FS spectrum bands, typically those located in the higher, and often less desirable, portions of the electromagnetic spectrum (e.g., 6 GHz, 11 GHz, 18 GHz, etc.).
- 18. At the same time, access to even some of these alternative spectrum bands is being threatened. In a Report and Order released in June 2000, the Commission segmented the 18 GHz band in a manner that reallocates the use of certain spectrum.²² Numerous petroleum and natural gas companies are authorized to operate microwave links in this band. The rules adopted in this proceeding are likely to again force incumbent licensees to relocate while

²⁰ <u>See</u> Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, *First Report and Order and Third Notice of Proposed Rulemaking*, ET Docket No. 92-9, 7 FCC Rcd 1542 (1992).

²¹ <u>See</u> Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite-Service, ET Docket No. 95-18, *Second Report and Order and Second Memorandum Opinion and Order*, 15 FCC Rcd 12315 (2000).

²² <u>See</u> Redesignation of the 17.7-19.7 GHZ Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, IB Docket No. 98-172, *Report and Order*, 15 FCC Rcd 13430 (2000).

reducing the amount of spectrum available for the relocation of incumbent systems from the lower and upper 2 GHz bands. Due to such relocations, oil and gas companies often face potential disruptions in the operation of their systems and/or encounter difficulties in identifying suitable spectrum for new microwave systems. To make matters worse, the Commission recently initiated a proceeding that contemplates the licensing of Satellite Earth Stations on Board Vessels ("ESVs") in the bands that are shared with terrestrial FS licensees (e.g., portions of the 4 and 6 GHz bands).²³ While the Commission states its hope to develop licensing for ESVs that will limit harmful interference to terrestrial users and will not restrict the growth of terrestrial services, API fears, based on the recent treatment of FS users in other bands (as reviewed above), that the stage has been set for the further erosion of FS spectrum.

ii. Auction for Multiple Address System Spectrum

19. Based, in part, upon a finding that existing private MAS channels had become too congested, in 1989, the Commission designated 40 channel pairs in the 932/941 MHz band for point-to-multipoint use, with equal access contemplated by private users and common carriers.²⁴ Although the Commission accepted 50,000 applications for these assignments during a filing window in 1992, due to the Commission's subsequent receipt of auction authority, the applications were ultimately dismissed, and in 1997, the Commission adopted a Notice of

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²³ <u>See</u> Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the Bands Shared with Terrestrial Fixed Services, *Notice of Inquiry*, IB Docket No. 02-10, FCC 02-18 (rel. Feb. 4, 2002).

²⁴ <u>See</u> Amendment of Parts 1, 21, 74 and 94 of the Commission's Rules to Establish Service and Technical Rules for Government and Non-Government Fixed Service Usage of the Frequency Bands 932-935 MHz and 941-944 MHz, GEN Docket No. 82-243, *Third Notice of Proposed Rule Making*, 2 FCC Rcd 1608 at ¶ 5 (1987). <u>See also Amendment of Parts 1, 21, 74 and 94 of the Commission's Rules to Establish Service and Technical Rules for Government and Non-Government Fixed Service Usage of the Frequency Bands 932-935 MHz and 941-944 MHz, GEN Docket No. 82-243, *Second Report and Order*, 4 FCC Rcd 2012 at ¶ 11 (1989).</u>

Proposed Rulemaking that looked toward the amendment of its rules regarding the allocation and licensing of MAS spectrum in the 932/941 MHz and other bands.

- Despite evidence that CII companies, as well as other private MAS users, were finding it increasingly difficult to identify available MAS channels to meet their critical operational requirements, the Commission proposed to auction for commercial use all 40 of the MAS channel pairs in the 932/941 MHz band. API and others vigorously opposed this proposal and argued that the real need for new MAS spectrum was for private, rather than commercial, applications. As a result, the Commission ultimately set aside fifteen 932/941 MHz channel pairs for private, internal use and five channel pairs for Public Safety use; the FCC, however, proceeded to seek to auction for commercial use the remaining 20 channel pairs.
- 21. The MAS auction was held in November 2001 of the 5,104 licenses offered at auction, only 878 were purchased (by 13 bidders) for approximately \$1.2 million in net bids. The Commission is apparently now considering whether to re-auction the *numerous* MAS licenses that remain unsold following the auction. In this regard, API notes that while there was obviously little commercial interest in the Commission's MAS offering, the private MAS channels in the 932/941 MHz band are already depleted, or nearly depleted, in many of the regions of the country. Thus, rather than embarking again on the likely unsuccessful path of a reauction, API urges the Commission to take a first step toward addressing the needs identified in the NTIA Report by initiating a proceeding to reallocate for private and/or CII use at least some of the MAS channels that were not sold at the auction in November 2001.
- D. Commercial Systems Are Not an Adequate Substitute for the Private Systems Relied Upon by Oil and Gas Industry Companies
 - 22. In the NTIA Report, the agency noted that commenters agreed that commercial

wireless services are not an adequate replacement for private wireless infrastructure. As API stated it its Comments to the NTIA, while commercial systems may provide supplemental communications capabilities, private systems are essential to the daily operations of energy companies, as well as to the effectiveness and speed of response in the event of an emergency incident. API has consistently emphasized to the Commission that commercial services are not a sufficient means of communications for these companies. In a staff White Paper released in 1996, the FCC's Wireless Telecommunications Bureau summarized the numerous reasons why commercial systems alone are not a replacement for private, internally-controlled communications capabilities. Such reasons include: 1) immediacy; 2) control; 3) capacity/usage; 4) reliability; 5) coverage/availability; 6) priority access; 7) equipment requirements; and 8) liability.²⁵

23. Despite advances in the development of the technology of commercial systems, it continues to be true today, as clearly demonstrated by the events of September 11, 2001 that, in many circumstances, commercial systems alone cannot be relied upon to provide adequate levels of reliability and coverage. API, therefore, emphasizes again that commercial services are <u>not</u> an adequate substitute for private radio systems in all instances. This conclusion is clearly reflected in the NTIA Report and should be recognized by the Commission in making subsequent spectrum policy decisions.

III. CONCLUSION

24. Our nation's oil and gas companies have made significant technological advances

²⁵ <u>See</u> Federal Communications Commission Wireless Telecommunications Bureau, *Staff White Paper*, (rel. Dec. 19, 1996) (discussing the spectrum requirements of and uses of this spectrum by the private land mobile community).

transportation, which can ultimately lead to lowered energy costs for consumers. Likewise, the petroleum and natural gas industries were pioneers in the use of two-way mobile and microwave radio systems for industrial applications. Even with technological advances, however, rising consumer demand requires expanded infrastructure to meet our nation's growing energy needs. As discussed above, and as API has consistently pointed out in numerous Federal Communications Commission proceedings, maintaining the safe operation of the growing energy infrastructure, such as refineries and pipelines, will continue to require reliable, internal communications capabilities to manage these facilities.

25. In light of the critical functions served by our nation's oil and gas industry companies, including heightened security concerns following September 11, API implores the Commission to give serious consideration to the communications needs of these companies, as well as the other Critical Infrastructure Industries, as outlined in the NTIA Report. API unequivocally believes that its member companies will continue for the foreseeable future to have vital needs for private communications systems. As a component of the Critical Infrastructure Industries, with public safety concerns inherent to their operations, the oil and natural gas industries will require new and existing spectrum allocations to support their energy exploration, production, refining, transportation and distribution activities.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully submits the foregoing Comments and urges the Federal Communications

Commission to act in a manner consistent with the views expressed herein.

Respectfully submitted,

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